



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

SF81  
THRU  
SF88

**TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER**

VOLTAGE RANGE - 50 to 600 Volts

CURRENT - 8.0 Amperes

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**MECHANICAL DATA**

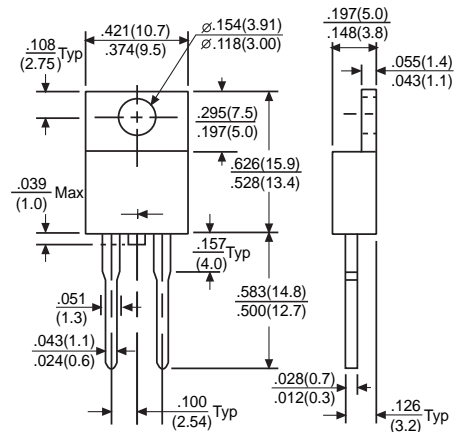
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- \* Mounting position: Any
- \* Weight: 2.24 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



TO-220A



Dimensions in inches and (millimeters)

	SYMBOL	SF81	SF82	SF83	SF84	SF85	SF86	SF88	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 100°C	I <sub>O</sub>	8.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	125							Amps
Maximum Instantaneous Forward Voltage at 8.0A DC	V <sub>F</sub>	0.975			1.35		1.70		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@ T <sub>C</sub> = 25°C	10						µAmps
		@ T <sub>C</sub> = 100°C	500						µAmps
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35			50				nSec
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	120			70				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150							°C

- NOTES: 1. Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A  
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
 3. Suffix "R" for Reverse Polarity

# RATING AND CHARACTERISTIC CURVES (SF81 THRU SF88)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

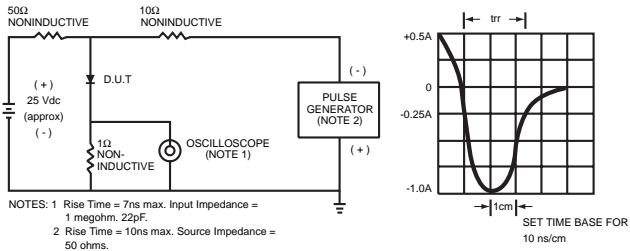


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

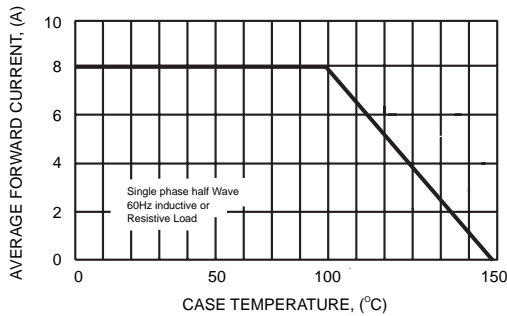


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

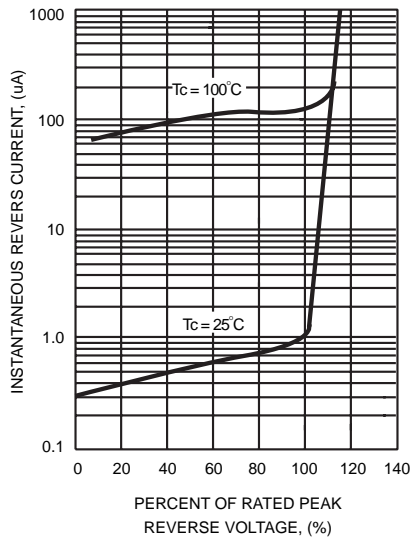


FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

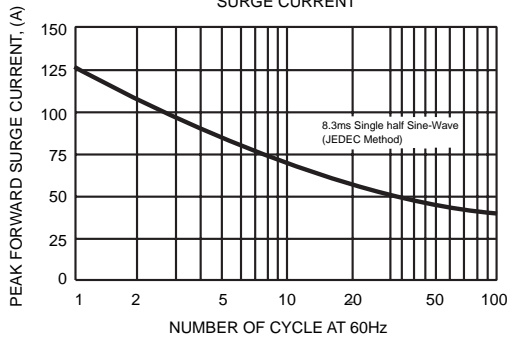


FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

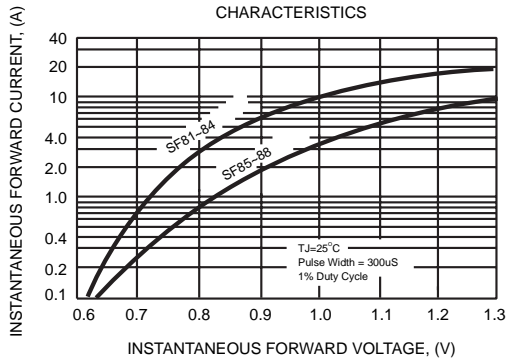
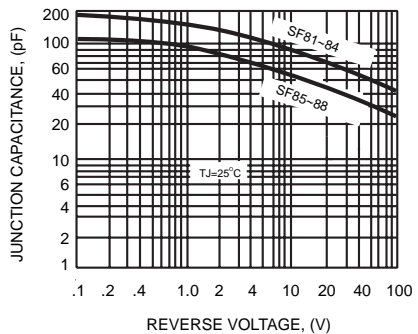


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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